What is claimed is:

1. A method of evaluating quality of a second image reproduced from a first image, said method comprising the steps of:

obtaining a first edge image from the first image using an edge filtering process;

obtaining a second edge image from the second image using the edge filtering process, wherein each of the first image, the second image, the first edge image and the second edge image comprises a plurality of pixels arranged in a same array of pixel locations, and each of said plurality of pixels has a pixel intensity, and wherein the pixel intensity at a pixel location of the first edge image is indicative of whether an edge is present in the first image at said pixel location, and the pixel intensity at a pixel location of the second edge image is indicative of whether an edge is present in the second image at said pixel location; and

for a given pixel location,

determining a first value indicative of a difference between the pixel intensity of the first edge image and the second edge image, if an edge is present in the first image at said given pixel location;

determining a second value indicative of a difference between the pixel intensity of the first edge image and the second edge image, if an edge is present in the second image but not present in the first image at said given pixel location; and

summing the first value and the second value for providing a summed value indicative of a measure of the quality.

2. The method of claim 1, further comprising the step of determining an averaged value of the summed value over all or part of the array of the pixel locations.

3. The method of claim 1, wherein information regarding whether an edge is present at a given pixel location is represented in an edge map having a plurality of pixels arranged in the same array of pixel locations as those in the original image.

4. The method of claim 3, wherein the edge map is a bit map such that the pixel intensity at a given pixel is equal to a first value for indicating the present of an edge and a second value different from the first value for indicating otherwise.

5. The method of claim 4, wherein the bit map is a binary bit map, and first value is equal to 1 and the second value is equal to 0.

6. The method of claim 4, wherein the bit map is a binary bit map, and the first value represents a Boolean "true" state and the second value represents a Boolean "false" state.

7. The method of claim 2, further comprising the step of comparing the averaged value to a predetermined value for determining whether the quality is satisfactory.

8. The method of claim 1, further comprising the step of determining for the given pixel location a third value indicative of a difference between the pixel intensity of the first image and the second image, prior to the summing step, if an edge is not present in either the first image or the second image at said given pixel location, wherein the summing step also sums the third value, in addition to the first and second values, for providing the summed value.

9. The method of claim 8, further comprising the step of determining an averaged value of the summed value over all or part of the array of the pixel locations.

10. The method of claim 9, further comprising the step of comparing the averaged value to a predetermined value for determining whether the quality is satisfactory.

11. The method of claim 1, wherein the first image is a color image transformable into luminance and chrominance components, and wherein the luminance component is used to provide the first edge image.

12. The method of claim 1, wherein the second image is a color image transformable into luminance and chrominance components, and wherein the luminance component is used to provide the second edge image.

13. The method of claim 1, wherein the summing of the first value and the second value is carried out with weights given to the first value and the second value.

14. The method of claim 8, wherein the summing of the first value, the second value and third value is carried out with weights given to the first value, the second value and the third value.

15. The method of claim 1, further comprising the step of adjusting non-linearity of the first value and the second value prior to the summing step.

16. The method of claim 8, further comprising the step of adjusting non-linearity of the first value, the second value and the third value prior to the summing step.

17. A system for evaluating quality of a second image reproduced from a first image, said system comprising:

means, responsive to the first image and the second image, for filtering the first image for providing a first edge image, and filtering the second image for providing a second edge image, wherein each of the first image, the second image, the first edge image and the second edge image comprises a plurality of pixels arranged in a same array of pixel locations, and each of said plurality of pixels has a pixel intensity, and wherein the pixel intensity at a pixel location of the first edge image is indicative of whether an edge is present in the first image at said pixel location, and the pixel intensity at a pixel location of the second edge image is indicative of whether an edge is present in the second image at said pixel location;

means, responsive to the first image, the second image, the first edge image and the second edge image, for determining, at a given pixel location:

a first value indicative of a difference between the pixel intensity of the first edge image and the second edge image if an edge is present in the first image at said given pixel location; and

a second value indicative of a difference between the pixel intensity of the first edge image and the second edge image, if an edge is present in the second image but not present in the first image at said given pixel location; and

means, responsive to the first value and the second value, for providing a summed value indicative of a measure of the quality based on the first value and the second value.

18. The system of claim 17, further comprising means, responsive to the summed value, for averaging the summed value over said array of pixel locations.

19. The system of claim 17, wherein said determining means further determines at the given pixel location a third value indicative of a difference between the pixel intensity of the first image and the second image, if an edge is not present in either the first image or the second image at said given pixel location; and wherein the providing means is also responsive to the third value and the summed value is also based on the third value.

20. The system of claim 19, further comprising means, responsive to the summed value, for averaging the summed value over said array of pixel locations.

21. The system of claim 19, wherein the filtering means comprises a direction filter to filter the first and second images at a number of different directions for providing a number of filtering results, and pixel intensity at a given pixel location in the first and second edge images is an average value of the filtering results.

22. The system of claim 19, further comprising means for applying weights on the first value, the second value and the third value prior to conveying the first value, the second value and the third value to the providing means.

23. The system of claim 19, further comprising means for adjusting non-linearity on the first value, the second value and the third value prior to conveying the first value, the second value and the third value to the providing means.

24. The system of claim 22, wherein the weights range from 0 to 10.

25. The system of claim 19, wherein the non-linearity of the first value is expressed as an exponent ranging from 0.25 to 2.0.

26. The system of claim 23, wherein the non-linearity of the second value is expressed as an exponent ranging from 1.0 to 3.0.

27. The system of claim 23, wherein the non-linearity of the third value is expressed as an exponent ranging from 1.0 to 5.0.

28. A method of evaluating quality of an imaging device or an image coding process capable of reproducing a second image from a first image, said method comprising the steps of:

a) obtaining a first edge image from the first image using an edge filtering process;

b) obtaining a second edge image from the second image using the edge filtering process, wherein each of the first image, the second image, the first edge image and the second edge image comprises a plurality of pixels arranged in a same array of pixel locations, and each of said plurality of pixels has a pixel intensity, and wherein the pixel intensity at a pixel location in the first edge image is indicative of whether an edge is present of the first image at said pixel location, and the pixel intensity at a pixel location of the second edge image is indicative of whether an edge is present in the second image at said pixel location;

c) determining for a given pixel location,

a first value indicative of a difference between the pixel intensity of the first edge image and the second edge image, if an edge is present in the first image at said given pixel location; and

a second value indicative of a difference between the pixel intensity of the first edge image and the second edge image, if an edge is present in the second image but not present in the first image at said given pixel location;

d) summing the first value and the second value for providing a summed value for the given pixel location;

e) averaging the summed value over at least a part of said array of pixel locations for providing an averaged value; and

f) comparing the averaged value with a predetermined value for determining the quality of the imaging device.

29. The method of claim 28, wherein the determining step (c) further determines a third value indicative of a difference between the pixel intensity of the first image and the second image if an edge is not present in either the first image or the second image at said given pixel location, and wherein the summing step further summing the third value, in addition to the first and second values, for providing the fourth value.

30. The method of claim 28, wherein the imaging device is a digital camera.

31. The method of claim 28, wherein the imaging device is a video camera.

32. The method of claim 28, wherein the imaging device is an image encoder.

33. The method of claim 28, wherein the imaging device is an image scanner.

34. The method of claim 29, wherein the predetermined value ranges from 10 to 100.

35. The method of claim 29, wherein the fifth value is a root-mean-squared average of the summed value.